



FA-18 photo by PH2 Jonathan R. Byrd
Photo-composite modification by Allan Amen

by Lt. Clark Childers

It was toward the end of our COMPTUEX at-sea period, in the middle of our workups for WestPac 00. I was a nugget in the squadron, with less than 300 Hornet hours, 50 arrested landings, and about six months in my fleet squadron. I launched from the ship on a CAVU day with three Mk-82s and two drop tanks. My lead was a cruise- experienced JO with about two years in the squadron; he had recently received his section lead qualification. We joined overhead the boat and headed for San Clemente Island for some unit-level training.

Coming off target on our last bombing run, I got a master-caution light and tone. This was the result of an L BOOST LO caution, indicating a loss of left-engine fuel-feed pressure. I continued my left turn and intercepted my lead. During the rendezvous, I called my lead and let him know the status of my airplane. We pointed our noses back toward mother, 40 miles south. As we were

breaking out our NATOPS pocket checklists and climbing through 8,000 feet, I got my second indication, an LAMAD caution indicating high oil temperature in the airframe mounted accessory drive. This was about three or four minutes from the first indication of a problem.

Single-Engine Or Engine Fire?

I pulled my left throttle back to idle, my wingman gave me the lead, and we continued to go through the procedures. The AMAD caution was the more serious problem, so we decided to go through that procedure first. It recommends that, if conditions permit, you consider shutting down the engine and restarting for landing. We decided to leave the engine running and call for a rep. About this time, I got a third indication, an LAMAD PR caution, indicating a loss of oil pressure in the AMAD.

Six months into my first squadron, I should be on top of my NATOPS knowledge.

However, I didn't recognize this combination of events from the simulator training in the RAG.

One thing that I did realize was that I was having multiple indications of a serious problem in the jet, and they weren't erroneous indications. When I got a rep from the tower, I was about 10 miles from mother at 16,000 feet. The tower rep was a familiar voice, the only other JO more junior than myself. He broke out his NATOPS, went through the procedures, and asked if I had shut down the engine yet. Having exhausted our combined experience levels, the rep called down to the ready room and got a department head down to CATCC to provide some advice. At this point, I did not have a game plan in my mind and was not making the important decisions on my own.

The CATCC rep came up on the radio, and I told him my indications. He asked again if the engine was secured. Telling him that it was not, he concurred with our decision and began preparing the ship for the pull forward and the immediate recovery. I remembered hearing that AMADs have come apart in a matter of minutes after an AMAD caution. That concerned me, especially since I'd had so many indications. The rep told me to prepare to make a half-flap straight in to the boat. He said to bring the engine up off the idle stop just prior to the ball call and to make a normal approach. About five minutes later, after dumping down to max trap for a half-flap approach, I saw that the ship had cleared the landing area, made 35 knots wind over deck, and was prepared to catch me.

My lead was still with me in trail, giving helpful hints over the radio. I thanked him for the help and said I'd see him on deck. I made my straight-in approach to a fair 4-wire, using an updated meatball, lineup, AOA, and fire-light scan. I secured the engine in the landing area and taxied clear.


During my postflight debrief, maintenance said that the AMAD was hot enough to burn your hand through the skin of the airplane and nearly glowing red. It was then that I realized just how close I was to having a real emergency on my hands. The boost pump shaft had sheared, causing a loss of fuel to the oil-fuel heat exchanger. The AMAD worked as advertised, but past emergencies had produced catastrophic results: titanium engine fires caused by hot AMAD parts being injected into the jet engine. The extreme heat in the AMAD during the first few minutes of the emergency caused the AMAD PR switch to fail, giving me the AMAD PR caution.

I began to question the decisions that I'd made in the air. The jet had made it home and flew again that

evening. But if NATOPS says to consider shutting down the engine and restarting for landing, should you shut down the engine and then decide? You can restart the engine prior to recovery if the situation warrants. Then again, why restart the engine if you know there is a serious problem with it? On a CAVU day with a steady deck, why not come back single-engine and avoid the possibility of a fire? Is it better to risk the engine and possibly the airframe because of fire or to risk the single-engine landing? Which has the higher risk? With a day straight-in and an LSO who knows you are a nugget, is a single-engine approach safe? On that day, I hadn't wanted to make a single-engine approach, but is that fear worth risking the aircraft? We had decided the landing was the greater risk. If the AMAD had come apart, we may have reevaluated our decision, but we followed NATOPS, and the aircraft made it back to the ship.

As a nugget, I learned more from this one flight than anything else on the detachment. The first and most important lesson was that when bad things start happening, even as a nugget, you know the airplane, and you can develop your own game plan before you dump it in someone else's lap. I'm not saying I should have had fast hands and started shutting down engines, but you can figure out what emergency you have, do your immediate NATOPS procedures, and then develop a game plan in your airplane.

Discuss that plan with your wingman and then call the rep. It will make his job easier, and he can add his experience and suggestions before you make your decision. He can give you important information that you have forgotten. You can let the rep decide whether the ship wants to bring you back single-engine and decide whether the conditions give you enough power for a single-engine waveoff. My rep didn't know the sequence of events and the quick progression of my emergency, and he might not have made the same decision had he been in the aircraft watching it happen.

In the future, I will make sure that I make my own game plan, talk to my wingman, and use crew coordination within my section first. Then I'll call for a rep to see if there is anything that we have forgotten or misinterpreted. While there is valuable advice to be gained from experienced pilots in your squadron, you signed for the airplane, and you are the one who is going to be responsible if you don't bring it back. 

Lt. Childers flies with VFA-115.